



INDUSTRIAL OPERATIONS FIRE PREVENTION AND PREPAREDNESS PLAN


April 1, 2018 - November 2018

CER Inc.

This plan has been prepared for submission to the Ministry of Natural Resources and Forestry, Aviation, Forest Fire and Emergency Services in accordance with the requirement under section 21 of the Outdoor Fires Regulation.

Company Representative: Jody Cassalman

Date: May 15th, 2018





FIRE PREVENTION AND PREPAREDNESS PLAN

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1.0 General

Company:

CER – Inc.

Focus of Operation:

The building of 87 Vestas 3.45 MW wind turbines, transformers, a 34.5 kV electrical collection system, communication lines, meteorological towers, access roads, an operation and maintenance building and a project substation.

General Location of Operations:

Henvey Inlet 2

Operations by risk category:

Risk category	Operations
Very High	<ul style="list-style-type: none">➤ Stripping of forest with Fella Bunchers➤ Grubbing➤ Moving heavy steel track equipment on rocky ground
High	<ul style="list-style-type: none">➤ Hot work, Welding and cutting➤ Welding and cutting of steel piping
Moderate	<ul style="list-style-type: none">➤ Building and shaping the sub-grade with a backhoe or excavator➤ Operation of rubber-tired equipment such as a backhoe or pick-up truck➤ Blasting of Rock
Low	<ul style="list-style-type: none">➤ Gravelling and grading roads 3m from vegetation and forest floor➤ Operation using chainsaws 3m from vegetation and forest floor➤ Trenching with mechanical Equipment 3m from vegetation and forest floor

2.0 Fire Prevention Planning

The following measures will be undertaken to ensure compliance with the Forest Fires Prevention Act (FFPA)

- All brush, debris, non-merchantable timber, and other flammable material resulting from land clearing will be safely disposed of through piling and burning, chipping or other fire safe methods.
- Any fires that may have occurred or are discovered and not kept under control will be reported to the Ministry of Natural Resources and Forestry (MNRF) without undue delay
- Staff will be instructed on rules around smoking during the fire season and the proper disposal of smoking materials

The following are additional measures that will be undertaken to ensure compliance with the Outdoor Fires Regulation

- Wetting the terrain during welding operations
- Check intensity code daily based on fuel group and closet weather station to worksite (Sudbury)
- Equipping fire stations with water packs
- Monitor fire hazard levels around the work sites each day
- Monitor any on-going fires in the area and wind directions
- Constant contact with the MNRF in Sudbury
- Equipment or machinery being operated within forest areas will be equipped with a serviceable fire extinguisher rated at least ABC Dry chemical 20lb
- Staff operating chainsaws or brush saws will do so in accordance with section 10 of the regulation
- Staff operating equipment or machinery in a forest area during the fire season will do so in accordance with section 11 of the regulation
- Any fires detected by the operation during operations that are being mitigated or when patrols are being conducted will be reported to the MNRF without undue delay
- **Filled back pack pumps will be carried on or be located within 30 meters of every piece of heavy equipment**
- We will limit equipment with metal tracks and chains to a **maximum of five** in one area around a radius of 10km
- The appropriate fuel group will be determined for worksites where very high, high, and moderate risk operations are occurring as per section 18 of the regulation
- Modifications of hours of operation will be made based on section 23 of the regulation
- If drill rig moves are required during periods of high hazard, mitigation efforts will follow the steps laid out in Section 19.(2) of the regulation to lower the hazard before the rig is moved.

3.0 Fire Preparedness

- Our operations are to be considered trained and capable
- 25% of our field staff are trained and proficient to the pertinent fire suppression level
- Training is delivered by CER and a record of the trained staff and the dates of training are available at our head office. Refresher training is done annually
- Backpack pumps and equipment caches will be in the laydown area

We have the following equipment-available for fire suppression:

Types of Fire Suppression Equipment:

- Britt EMS is equipped with 2 pumper trucks located at fire hall 20 minutes away. All trucks and heavy equipment are equipped with type C fire extinguishers and all Muster sites will have backpack pumps filled with water
- Fire equipment cache containing at least one pump will be located centrally within 10 km where there are six or more pieces of heavy machinery with tire chains, metal tracks or skids are being operated, or 10 or more pieces of heavy machinery are being operated

South	North
1.Muster point at laydown area 2.Muster point at Pad 70 3.Muster Point at Pad 53 4.Muster point at Pad 49 5.Muster point at Pad 122 6. Muster point at Pad 59	1. Main Gate 2. Laydown Area 3. Branch C

- Wild fire hazard will be monitored daily by accessing forecasted weather conditions, fire weather indices, fuel types, and fire intensity codes
- Intensity codes representing the operational areas will be determined and modifications/mitigation will be made as required by the Outdoor Fires Regulation

Suppression Equipment Required by Operation:

Operation Type	Backpack Pump Requirements	Additional Suppression Equipment Requirements
10 or more pieces of heavy machinery being operated within a 10 km radius if no more than 5 chains, metal tracks or skids	1 per machine located on or within 30 meters of where the machine is being used, or 1 pressurized water delivery system per machine	1 fire equipment cache containing at least one pumping unit and 3 shovels
6 or more pieces of heavy machinery being operated within a 10 km radius equipped with tire chains, metal tracks or skids.	1 per machine located on or within 30 meters of where the machine is being used, or 1 pressurized water delivery system per machine	1 fire equipment cache containing at least one pumping unit and 3 shovels
Hot work	1 per hot worker operation located within 3 meters of operation	None required
Welding and Cutting	1 per operation located within 3 meters of the operation	If fire intensity code is A, B, or C, a water delivery system with a minimum of 90 gallons of water onsite
Grinding	4 per grinding operation	A water delivery system with a minimum of 1000 gallons of water onsite

- If a fire is detected within or near the worksite, MNRF will be notified using phone (911). MNRF will be updated on the progress on any fires that are actioned by company staff will be with in the first 30 minutes. After this Emergency Fire Services will update and work with MNRF. The fire will be assessed by the most experienced staff member onsite and suppression will commence using backpack pumps and any other equipment nearby.

4.0 Communications

- The process for field operations to communicate with MNRF staff will be by phone, and via email.
- The process for MNRF to contact field operations will be by phone and or email with key site contacts.
- The company will ensure that all employees working in field operations will be aware of the standard fire prevention measures as well as the fire hazard and specific fire prevention processes that may entail.
- The company will do this by addressing each job site specifically and competent safety personal inspecting each job site for hazards related to fires and ignition sources.
- The workers will be certified in fire prevention and suppression though SP 105 – SP 106 training courses.
- EH & S from CER will communicate hazards daily before work begins and will be incorporating daily tool box talks and the site-specific emergency response plans.



5.0 Annual Fire Prevention and Preparedness Plan Update

5.1 Annual Operations

- This update applies to the 2018 fire season for HIW.
- CER will be working on Henvey Inlet wind farm Project.

The following shows the operations being undertaken by area this season:

Operation	Location	Timeframe	Weather Station Code
Grubbing	Site Wide	April-July	
Blasting	Site Wide	April-July	
Road Building	Site Wide	April-July	
Operation of rubber-tired equipment	Site Wide	Duration of Project	
Heavy tracked equipment	Site Wide	Duration of Project	
Graveling and Grading roads	Site Wide	Duration of project	
Trenching	Site Wide	May-November	
Welding & cutting	Site Wide	Duration of Project	

5.2 Wildland Fire Reporting and Monitoring

- CER is responsible for the suppression of wildland fires originating from company operations if it is safe for them to do so.
- All fires will be reported immediately to the local fire service using the appropriate MNRF Wildland Fire Reporting number.
- Northeast Region:
 - **310-FIRE (3473) or (705) 564-0289 (Fire Reporting only)**

Hot Work Mitigation Measures and Requirements:

The measures and requirements provided below are applicable when hot work is occurring under dry and snow-free conditions on forest land.

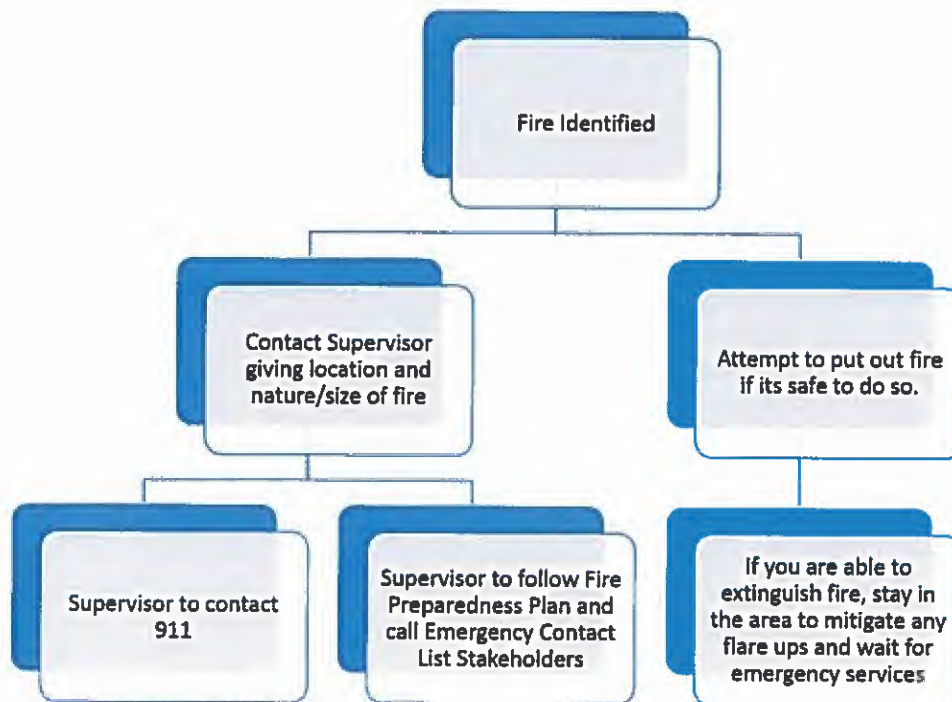
1. Any Foreperson in charge of hot work has the responsibility and authority to shut down work if conditions warrant.
2. All hot work is to be shut down if wind speeds exceed 20 km/h (both sustained and/or gusting wind speed)
3. One fire-watch/spotter is required at all hot work sites and must remain in area to monitor for **30min after hot work has been completed.**
4. Ground in the immediate work area surrounding the location where the hot work will be taking place must be wet down before hot work is commenced. Immediate area means a radial distance of approximately 3metres. This area is a field-based decision influenced by prevailing winds and ground conditions. Area of hot work is to be kept wet until hot work is completed. In designated wetlands or water courses, watering of the site is not required.
Under Normal Condition
6. A final check for any hot spots on the ground must be conducted before leaving a structure site where hot work has taken place. A fire watch must remain onsite for a minimum of 30 minutes after any hot work has been conducted.
7. Hot work specific fire protection requirements based on wind speed are as per the following table:

Task	Wind Speed less than 20 km/h	Wind Speed greater than 20 km/h
Welding/ Grinding Activities	One fire watch/spotter	Shut down all hot work

5.3 Emergency Response Plan

In the event of a wildfire, the following actions shall be undertaken:

1. If a forest fire is identified sound alert, notify supervisor and crews in the area.
2. Supervisor is to alert fire and emergency services and initiate the emergency fan out list.
3. Maintain contact with emergency services where possible to keep informed of the fire direction and speed, weather conditions and forecasts.
4. Use communications to know what the fire is doing at all times and base all actions on current and expected behavior of the fire.
5. Provide assistance as directed by forest rangers and government suppression crews.
6. Use escape routes or safety zones identified through the emergency plan that were developed for the work site.
7. Use equipment to move people whenever possible as vehicle cabs will provide an extra barrier from smoke, heat and flame.
8. Communicate movements on the ground so that actions are known to those outside the danger area.
9. Be alert. Keep calm. Think clearly. Act decisively.
10. If extraction is required by helicopter the orders of the helicopter crew are to be obeyed at all times.
11. Give clear instructions and be sure they are understood.



5.4 Company and MNRF Contacts

The following lists the local MNRF/AFFES contacts:

Name	Position	Location	Phone number
Manger who over sees operations: Ted Shannon <i>@ SRO @ Sudbury</i>	Fire duty Officers on rotating shifts	Sudbury fire management head quarters	705-564-6083 911 <i>705. 564. 6056</i>

* designates the main emergency contact in the AFFES program for this company

Name	Position	Location	Phone number
Larry Olds	Fire Chief	Britt	705-773-2570 911

*Under an agreement with Britt fire department, wild fires will not be fought as they fall under jurisdiction of MNRF. In the event of wild fire Britt fire Department will respond to protect the assets of CER (Buildings and Equipment). In event of a wild fire both MNR and Britt Fire Department should be notified.

The following lists the company contacts:

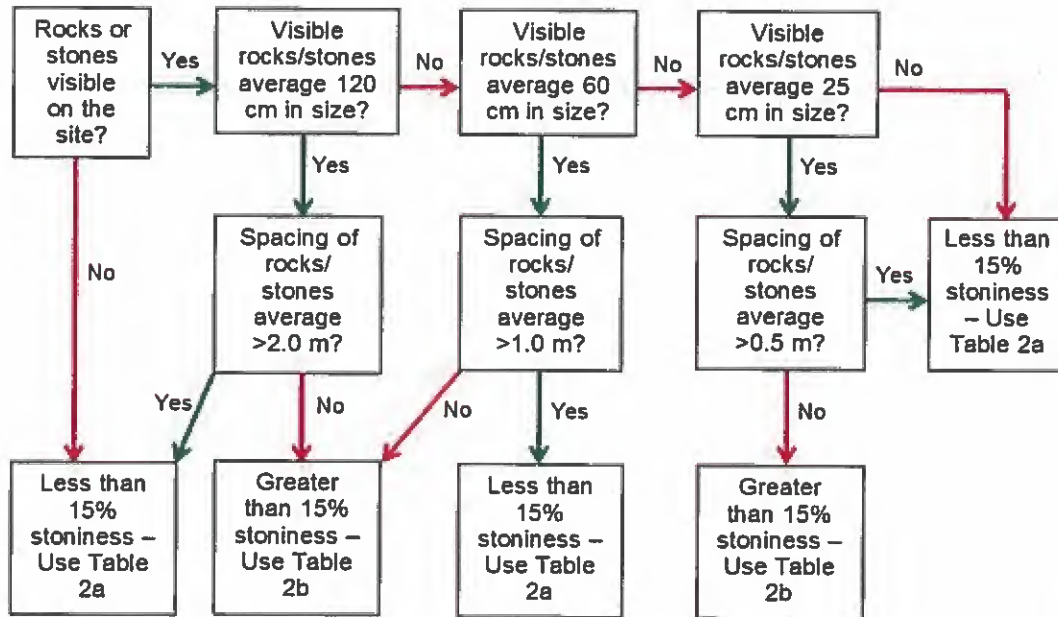
Name	Position	Location	Phone number
Robert Gauthier	Superintendent	HIW	518-307-2273
Jody Cassalman	Safety Manager	HIW	418-952-1501
Maxime Langlois	Asst. Project Manager	HIW	418-391-6113
Stephane Beaudoin	Project Manager	HIW	514-249-8449

* designates the main emergency contact in the company.

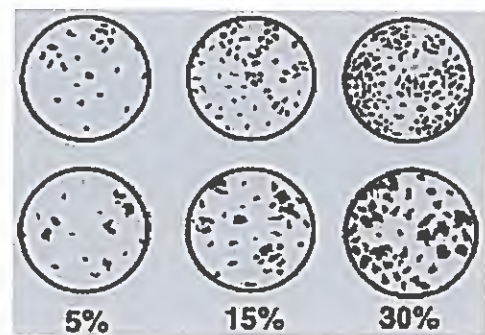
6.0 Assessing Stoniness

Within the Industrial Operations Protocol and the regulation, stoniness has been defined as “the presence of stones and boulders, 25 cm or greater, at or just below the surface of the soil. The percentage of stoniness that has been determined to increase the operational risk of industrial activities that bring metal in contact with rocks has been set at 15%.

The following key and visual aids will assist the user in determining site stoniness:



If more than one bedrock outcrops are visible on the site, it should be treated as >15% stoniness. The diagram provides some additional detail that can be used to help determine the percent stoniness.



7.0 Definitions

Backpack Pump: A flexible or rigid container containing a minimum of 18L of water which is equipped with a serviceable single action hand pump to disperse the water.

Fire Danger: A general term used to express an assessment of both the fixed and variable factors of the fire environment (namely the forces of: fuels, weather, and topography) that determine fire behavior.

Fire Equipment Cache: A supply of standard firefighting tools and equipment in planned quantities located at a strategic point for the exclusive use of fire suppression.

Fire Extinguisher: A minimum 6A 80BC fire extinguisher.

Fire Hazard: A general term used to describe the potential fire behavior for a given fuel type, based on physical fuel characteristics such as fuel arrangement, fuel load, condition of herbaceous vegetation and the presence of ladder fuels.

Fire Intensity: The rate of heat energy released per unit time per unit length of fire front and is expressed in kilowatts per meter (kW/m).

Fire Management Supervisor: The lead fire manager at the local MNRF Fire Management Headquarters.

Fire Prevention and Preparedness Plan (Fire Plan):

A document developed by a company undertaking industrial operations in a forest area that should contain, but is not limited to:

1. Company and MNRF contacts
2. Type of operations by risk category
3. Fire prevention planning
4. Fire prevention programs and initiatives
5. Fire prevention monitoring
6. Fire preparedness planning
7. Fire suppression training
8. Suppression equipment available
9. Actions to be taken when a fire is detected
10. Communications plan(s)

Fire Season: The period from April 1 to October 31 each year as per section 10 of the *Forest Fires Prevention Act* (FFPA) or as set by the Minister as per Sect. 37 of the *Forest Fires Prevention Act* (FFPA).

Fire Type: General description of fire behavior, indicating fire is spreading in the ground, on the surface or in the tree crowns.

Wild Fire: A large, destructive fire that spreads quickly over woodland or brush.

Forest Area: Means any forest, woodland, prairie, savanna, shrub land, peatland, agricultural land, or grassland, but does not include a cultivated garden or lawn.

Forest Floor: The organic surface component of the soil supporting forest vegetation; the combined duff (if present) and litter layers.

Head Fire: A fire spreading, or set to spread, with the wind (upslope in the absence of wind).

Hot Work: Activities that involve devices that could produce a source of ignition, such as a spark or open flame, such as welding, cutting, or grinding

Industrial Operation: Any of the following operations that are carried out in a forest area as part of an industrial activity and not for personal purposes:

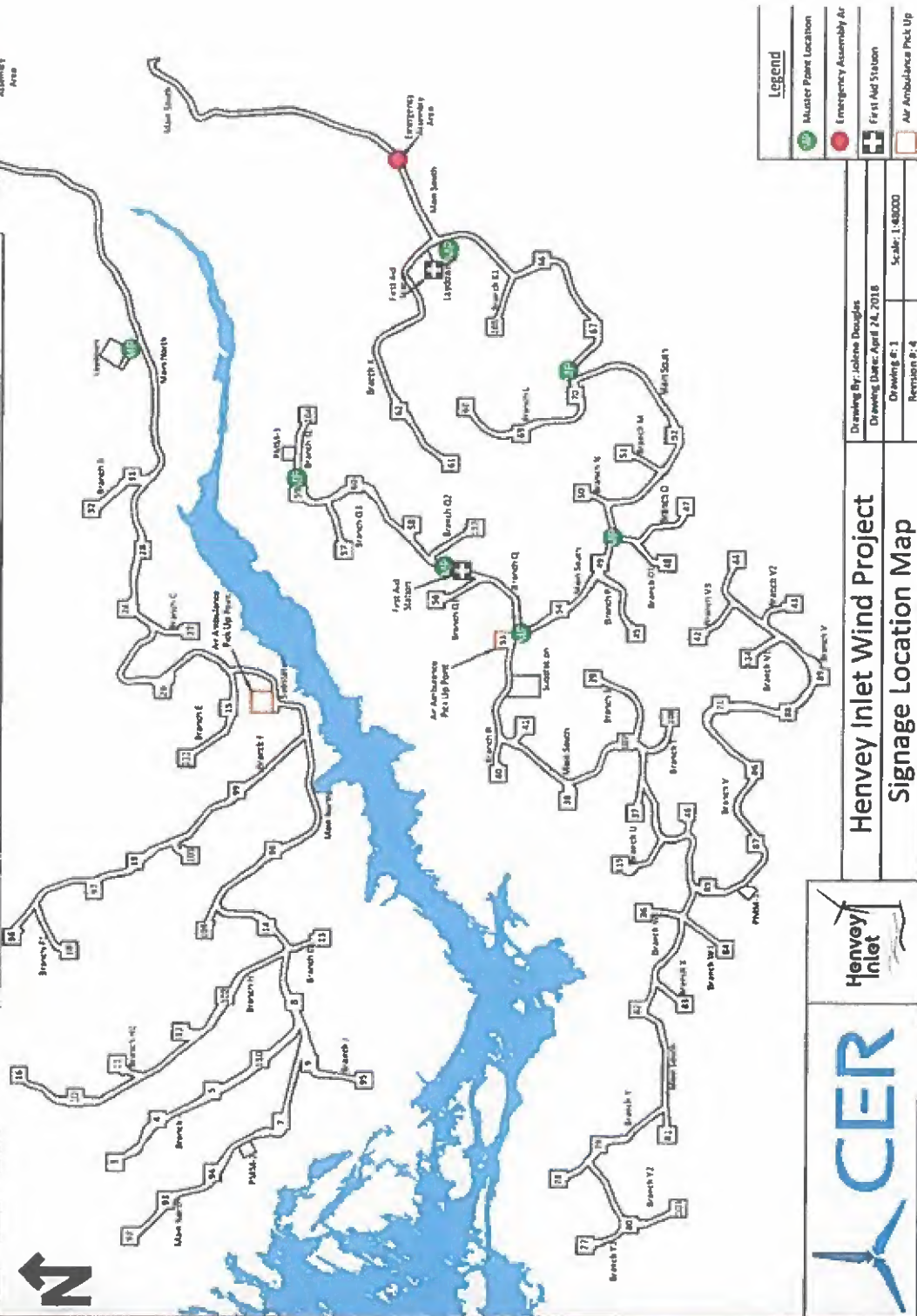
1. Harvesting trees and processing trees into log lengths, chips, biofuel or lumber.
2. Clearing land of trees or other vegetation.
3. Operation or use, in a forest area, of machinery with metal parts that, in the normal course of operations, may come into contact with rocks or similar material resulting in the creation of a spark or fire.
4. Hot work.
5. Trenching in areas of forest fuels.
6. The use of explosives in or adjacent to forest fuels.
7. Road construction.

Grubbing: removing and disposing of all unwanted surface material, such as trees, brush, grass, weeds, downed trees, or other material.

Trenching: Type of excavation or depression in the ground that is generally deeper than it is wide, and narrow compared with its length.

Map of Emergency Meeting Points and Muster points

Henvey Inlet Project Emergency Contact Numbers
 Joy Casselman HS Manager 1-418-952-1501
 Lois Essena HS Advisor 1-705-669-7081, Ed Weidhaas HS Advisor 1-514-980-0209, Mike Smith HS Advisor 1-902-315-0600, Richard Levesque MROC HS Advisor 1-705-987-8460
 Kyla McQuabbie First Aid 1-705-690-9380, Stephanie Theriault Environmental Manager 1-416-577-7881
 Stephanie Beaudoin Site Project Manager 1-514-249-8449, Maxime Langlois Asst Project Manager 1-418-391-6113, Florin Maraboi Asst Project Manager 1-438-838-2062



Henvey Inlet Wind Project
 Signage Location Map

Drawing By: John Douglas
 Drawing Date: April 24, 2018
 Drawing #: 1
 Revision #: 4
 Scale: 1:48000

Legend	
	Muster Point Location
	Emergency Assembly Area
	First Aid Station
	Air Ambulance Pick Up

Emergency Medical Helicopter Landing Coordinates

Turbine ID	Easting [m]	Northing [m]	Turbine ID	Easting [m]	Northing [m]	Turbine ID	Easting [m]	Northing [m]
3	523121	5079906	49	528807	5075356	95	523906	5077558
4	523527	5079507	50	529470	5075524	96	525245	5080899
5	523801	5079989	51	529849	5075135	97	525687	5080122
7	523524	5078349	52	530020	5074662	98	526081	5078430
8	524642	5078218	53	528070	5076261	99	526639	5078778
9	524064	5078074	54	528366	5075731	101	526026	5079213
10	523729	5080288	56	528453	5076902	102	524699	5078878
11	524049	5079892	57	528916	5077778	103	522710	5074574
12	524357	5079296	58	529162	5077137	104	530197	5078125
13	525248	5077957	59	529453	5078210	105	531039	5076363
14	525350	5078487	60	529540	5077683	107	527118	5075097
15	527421	5078857	61	529742	5076770	108	527349	5074679
16	523941	5080825	62	530238	5077263	109	525317	5079070
17	524323	5080374	66	531670	5075919	110	524099	5078545
18	525119	5080356	67	531023	5075433	111	526947	5079256
19	525968	5079735	68	530276	5076631	114	527914	5073940
24	528351	5079834	69	530029	5076106	115	525956	5075143
25	527408	5080090	70	530390	5075594	122	529137	5076532
26	527595	5079486	71	527472	5074206	Transformer	527480	5078545
27	528146	5079222	73	526968	5081286	Transformer	527641	5076030
28	528910	5079678	74	527432	5081184			
30	528837	5080463	77	522354	5075451			
31	529601	5079784	78	522983	5075707			
32	529297	5080169	79	523310	5075327			
33	529797	5080740	80	522549	5075033			
34	530071	5080243	81	523404	5074679			
35	529499	5081120	82	524586	5074970			
36	525504	5074920	83	524641	5074525			
37	526446	5075009	84	525161	5074143			
38	526560	5075647	85	525749	5074315			
39	527713	5075411	86	526860	5073884			
40	526809	5076303	87	526160	5073866			
41	527265	5076047	88	527405	5073568			
42	528114	5074425	89	527740	5073257			
43	528421	5073536	92	522423	5079763			
44	528847	5074062	93	522766	5079426			
45	528144	5075012	94	523022	5078984			
46	526456	5074519						
47	529348	5074549						
48	528808	5074717						